

**Creativity**  
**Strategy**  
**Leadership**  
**Innovation**



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Welcome to the first edition of The Innovation Road Map Magazine. Innovation is a journey. Every innovation has a history and a future. It also has a present and our role is to help innovation have the brightest future it can, depending upon its history and the ever shifting market and organizational environments.

There are seven stages in the development of innovation. Most innovations falter somewhere on the journey from ideation to social or economic impact. At any moment in time on this journey there are two road maps that must be developed. The first is the market road map for innovation - what are the alternate paths to take advantage of the opportunities (and avoid the threats) created by the demographic, sociopolitical, technological and economic driving forces for change, delight customers, satisfy stakeholders and gain a competitive advantage. The second is the organizational development road map for innovation - the alternate paths that the organization could take to be able to produce the innovations



Stage	Stages of Innovation
1	<b>Determination of opportunity or need; Discovery</b>
2	<b>Demonstration of feasibility</b>
3	<b>Prototype or field trial</b>
4	<b>Commercial introduction or operational use</b>
5	<b>Widespread adoption</b>
6	<b>Diffusion</b>
7	<b>Social or economic impact</b>

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**Creativity  
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Three people have founded The Innovation Road Map Magazine - Scott Byers, Donna Prestwood and me. Scott Byers is the Creative Director and the one responsible for the insightful and humorous art. Donna Prestwood is the Business & Marketing Director and frequent contributor to the magazine. And, I am the Editor & Publisher. I look forward to seeing you often.

required by the market road map. The combination is the innovation road map. The engine that drives this journey is the interaction of creativity, strategy and leadership.

The Innovation Road Map Magazine is a work in progress, as we examine all of the elements described in the above paragraph from different points of view. Subsequent editions will have more articles and a broader perspective. We welcome your participation in this ongoing conversation by submitting articles, book reviews or comments.

## **Stage 1: Determination of Opportunity or Need; Discovery**

**Stages of Innovation**

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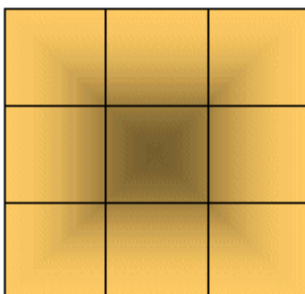


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# Articles

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Evolution is the most powerful tool we have for dealing with change.

Seth Godin, ***Survival Is Not Enough***

## [The Innovation Advantage](#)

**Donna Prestwood & Paul Schumann**

Innovation is the means by which enterprises create wealth. Enterprises that learn how to integrate innovation into strategy, and strategy into the process of innovation, will gain a competitive advantage and optimize the enterprise's creation of wealth. Integration of innovation into strategy requires two tools -- the Innovation Profile and the Innovation Road Map. The Innovation Road Map provides a way to analyze the innovation opportunities and threats of the market, strategy of competitors, capability of the enterprise, and desires of the stakeholders. The Innovation Profile is a matrix of nine different types of innovation. The Innovation Road Map includes customers, competition, technology, stakeholders, enterprise capability and the enterprise's capacity for change. This perspective enables the creation of multiple scenarios based on different innovation strategies that are necessary for strategic wealth creation decisions.

[Read Article](#) (PDF, 8 pages, 197 KB)



People everywhere have hard choices to make.

Susan Podziba, Faculty Associate, Harvard Law School

## [Living with Change and Uncertainty](#)

<a

While change and uncertainty have always been a part of life, what has been shocking over the last few years has been both the quantum and suddenness of change. For many people who were cruising along on placid waters, the wind was knocked out of their sails. The entire logic of doing



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business was turned on its head. Not only business, but also every aspect of human life has been impacted by the change. What lies ahead is even more dynamic and uncertain.

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**Year's Best Headlines  
(2003)**

**Something went wrong  
in jet crash, expert  
says**

**Police begin campaign  
to run down jaywalkers**

**Iraqi head seeks arms**

**Panda mating fails;  
veterinarian takes over**

**Teacher strikes idle  
kids**

**Miners refuse to work  
after death**

**Juvenile court to try  
shooting defendant**

**War dims hopes for  
peace**

**If strike isn't settled  
quickly, it may last**

**Laughing Really Does Matter...at Work**

Ann Fry

We need humor in the workplace! We must have it; we will shrivel and die if we don't. Humor/Fun in the Workplace is absolutely, uncontrovertibly necessary for all workplaces that



truly want to succeed... because, after all.... LAUGHING MATTERS!

What it's really all about is ... creating an environment that is "safe" and fulfilling for people to work in. It's about creating the culture that invites honesty, loyalty, integrity, comfort, satisfaction and fosters "happiness" at work. When a company creates this kind of culture, their retention rate rises dramatically!

[Read article](#) (PDF, 165 KB, 2 pages)

**Innovation Skills Profile**

The Conference Board of Canada

The Innovation Skills Profile (ISP) isolates the unique contribution that an individual's skills, attitudes, and behaviors make to an organization's innovation performance. Collectively, the skills of individuals create an organization's capacity to innovate.

Successful innovation in organizations requires a combination of skills, supportive cultures and climates, structures and processes, and leadership.

The Innovation Skills Profile (ISP) isolates the unique contribution that an individual's skills, attitudes, and behaviors make to

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#### More Headlines

**Cold wave linked to temperatures**

**Red tape holds up new bridges**

**Man struck by lightning faces battery charge**

**New study of obesity looks for larger test group**

**Astronaut takes blame for gas in spacecraft**

**Chief throws heart into helping feed needy**

**Local high school dropouts cut in half**

**Typhoon rips through cemetery; hundreds**

an organization's innovation performance by focusing on creativity and continuous improvement skills, risk-taking skills, relationship building skills, and implementation skills. The ISP is designed for employers and employees. It is relevant to all organizations - regardless of size, function, or sector. The ISP can also be applied beyond the workplace by educators and students.

[Read article](#) (PDF, 50 KB, 2 pages)

#### Comments on Creativity

Winston J. Brill, Ph.D.

Since 1989, I've been studying the human side behind great ideas. What I was looking for were themes in common to how people think of great ideas. I examined a



diversity of disciplines including marketing, sales, research, administration, development, manufacturing and design, and investigated 350 of these great ideas. There were some surprising (to me, at least) observations. In this article, I'll pull the observations into some interesting conclusions that should help you stimulate and focus creativity to innovative success.

[Read article](#) (PDF, 110 KB, 2 pages)

#### A Path to Leadership

Paul A. Schumann, Jr. and Donna C. L. Prestwood

Leadership is now a state of mind, not a position. In this highly interactive age, each of us will



that we will increasingly be in situations that demand the exercise of our innate capability to lead. It is imperative that each of us bring up the leader within. We must all develop

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our leadership capability to its fullest in order for our organizations and institutions to be transformed.

[Read article](#) (PDF, 322 KB, 3 pages)

Work is theatre.

Joseph Pine and  
James Gilmore, *The  
Experience Economy*

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[Relativity - The Difference between Losers and Winners](#)

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Everything is relative.... Think about it. Say you weigh 130 lbs. but would like to weigh 120 lbs. You then proceed to gain ten more pounds and are now at 140 lbs. and miserable. So you commit to a diet and loose the ten pounds. Now the 130 lbs. isn't so bad as compared to the 140 lbs. and you are more at peace with the 130 lbs. then when you first were at 130 lbs. So when was the last time you

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How can you fail, if you haven't stopped trying?

Mike Dooley



were satisfied with yourself, be it weight, your nose, the shape of your eyes, your hair color, your teeth, etc. Comparison is detrimental to our sanity. It keeps us constantly seeking what we don't have. We are never at peace with what we do have. No matter where we are we always want to be somewhere else on the scale of accomplishments. It is a most human condition that keeps the majority of people suffering. This self-induced mental suffering game keeps us on the treadmill of "not good enough."

What if you shifted your attitude about yourself and really saw all those self-imposed weaknesses as your unique selling points (USP) and strengths. The difference between winners and losers is a mere change in their own internal perception regulator.

[Read article](#) (PDF, 143 KB, 1 page)

Arrival at the age of 16 is usually all that is required for achieving half of this important attribute of creativity. It is unusual to find a "contented" young person; discontent goes with that time of life. To the young, everything needs improvement ... As we age, our discontent wanes; we learn from our society that "fault-finders" disturb the status quo of the normal, average "others." Squelch tactics are introduced. It becomes "good" not to "make waves" or "rock the boat" and to "let sleeping dogs lie" and "be seen but not heard." It is "good" to be invisible and enjoy your "autonomy." It is "bad" to be a problem-maker. And so everything is upside-down for creativity and its development. Thus, constructive attitudes are necessary for a dynamic condition; discontent is prerequisite to problem solving. Combined, they define a primary quality of the creative problem-solver: a constantly developing Constructive Discontent.

Don Koberg and Jim Bagnall , *The Universal Traveler. A Soft-Systems Guide to: Creativity, Problem-Solving, and the Process of Design*

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It is the function of  
creative man to  
perceive the relations  
between thoughts, or  
things, or forms of  
expression that may  
seem utterly different,  
and to be able to  
combine them into  
some new forms - the  
power to connect the  
seemingly  
unconnected.

William Plomer

If you see in any  
given situation only  
what everybody else  
can see, you can be  
said to be so much a  
representative of  
your culture that you  
are a victim of it.

S. I. Hayakawa.

## The Butterfly's Business Plan

Anne Durrum Robinson

I'm colorful, happy .. a feast for the eyes!

What lies in the future? A daily surprise.  
So why should I plan .. figure out what's  
in store?

No one really knows. Keeping score is a  
BORE.

TODAY is a BREEZE, but tomorrow's a  
guess.

Any long range prognosis I intend to  
suppress.

My future intentions? I do have so many.  
My ultimate purpose ? Oh, I haven't any.  
I flitter and flutter from flower to flower  
And alter my future from hour to hour.

I flutter and flitter. I dip and I dive.  
My mission? Oh, darling .. JUST BEING  
ALIVE.'

Just smelling the flowers and breathing  
the air. My GOALS?

Well, you set some. I really don't care.  
What's laughter today may turn quickly  
to sorrow.

So why give a fig for a hazy tomorrow?

You asked my intention? To just stay in  
motion.

My stra-te-gic outcome? I haven't a  
notion.

Be practical. Come, now .. a dollar, a  
dollar ..

The "man with the plan" should have  
been CATERPILLAR!

In spite of his short-sighted sketch of the  
scene

I came out quite lovely. You see what I  
mean?

From that sad, furry worm to my current  
elation

It didn't take PLANNING.

It took TRANSFORMATION!

From *Ride the World*



The past is but the  
beginning of a  
beginning.

H. G. Wells

To live means to  
create.

Milton Steinberg

The difference  
between a top-flight  
creative person and  
the hack is the ability  
to express powerful  
meanings indirectly.

Vance Packard

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If a team has no soul,  
you're just wasting  
your time.

Bob Ladouceur,  
Coach, De La Salle  
Spartans

Meetings waste time  
and sap people's  
energy.

Joe Weller, CEO,  
Nestle USA

Those who create are rare;  
those who cannot are  
numerous. Therefore, the  
latter are stronger.

Gabrielle "Coco" Chanel

## [Return on Innovation](#)

[Joyce Wycoff](#)

"As a student of innovation for some twenty odd years, I still find it amazing just how hard innovation continues to be."  
-- John Seely Brown

(If JSB thinks innovation is hard, no wonder the rest of us find it overwhelming at times.)

Recently, the International Institute for Research sponsored a conference on Return on Innovation. It was an incredible sharing of information about how to measure and manage innovation and demonstrated how this field is starting to be accepted as a true strategic discipline. We had innovation practitioners from HP, Intel, Motorola, James Hardie Construction, Boeing, Air Products & Chemicals and consultants with long backgrounds in other major organizations. Conference Briefing Nuggets ... just a few of thoughts we're still chewing on...

[Read article](#) (PDF, 125 KB, 2 pages)

<a

## [Getting Innovation Right](#)

[Carlene Hawn](#)

If Apple teaches us anything, it's that effective innovation is about more than building beautiful cool things. A few thoughts for innovating well in your own shop:

- **Not All Innovation Is Equal**  
Technical innovation will earn you lots of adoring fans (think Apple). Business-model innovation will earn you lots of money (think Dell).
- **Innovate for Cash, Not Cachet**  
If your cool new thing doesn't generate enough money to cover costs and make a profit, it isn't innovation. It's art.



The specialized semantics of established knowledge constitutes conventions, which make reality abstract and secondhand.

Learned conventions can be windowless fortresses, which exclude viewing the world in new ways.

William J. J. Gordon  
**Synecritics**

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Read entire article <a href="http://www.fastcompany.com/2004/01/15/If\_He's\_So\_Smart... Steve Jobs, Apple, and the Limits of Innovation">

What if you created something that would last forever?

Richard LeFauve,  
President, General Motors University

A vision without the ability to execute is probability a hallucination.

Stephen M. Case

- **Don't Hoard Your Goodies**  
Getting to market on time and at the right price is vital. If that means licensing your idea to an outside manufacturer or marketer, do it.
- **Innovation Doesn't Generate Growth. Management Does.** If you covet awards for creativity, go to Hollywood. Managers get rewarded for results, which come from customers.
- **Attention Deficit Has No Place Here**  
Every innovation worth doing deserves your commitment. Don't leap from one new thing to another. If your creation doesn't appear important to you, it won't be important to anyone else.

Carleen Hawn is Fast Company's West Coast bureau chief.

#### **Innovation: Closing the Implementation Gap**

CEO Survey, Chief Executive

Is implementation the issue with successful innovation? The 350 CEO's surveyed by Accenture for Chief Executive seem to think so:

- 50% think innovation is the key to competitive advantage
- 75% feel that there is no shortage of ideas
- 46% commercialize less than 20% of the ideas

To read the article, click [here](#). (PDF, 193 KB, 2 pages)

Every new idea is born drowning. A new idea is at its most vulnerable during the first few moments of life. It needs a great deal of caring for it to blossom.

Synectics

...how many times have you heard a CEO or divisional vice president say, "Or real problem is execution"? Or worse, tell people that "strategy is the easy part, implementation is the hard part." What rubbish! These worthless aphorisms are favored by executives afraid to admit that strategies are seriously out of date, executives who'd prefer their people stop asking awkward questions and get back to work. Strategy is easy only if you're content to have a strategy that is derivative of someone's else's strategy. Strategy is anything but easy if your goal is to be the author of industry transformation — again and again. It is, however, immensely rewarding. What could be more gratifying than putting one's fingerprints all over the future?

Gary Hamel, ***Leading the Revolution***

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## Creative Combinations

Paul Schumann

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Take into account that great love and great achievements involve great risk. When you lose, don't lose the lesson. Follow the three Rs: Respect for self, respect for others and responsibility for all your actions.

The Dalai Lama

An invention quite often results from the combination of known principles in a novel, unexpected, and nonobvious way. A characteristic of



creative people is their ability to combine seemingly unrelated concepts to produce something new. Most creations are the result of purposeful activity, not accident. Purpose and knowledge in many fields are vital ingredients in a creative person. The more topics that you are an expert in, if you have facile access to the knowledge, the more likely you are to make a creative combination.

[Read Article](#) (PDF, 104 KB, 3 pages)

### Micro-business will Offer Economic Strength

[The Herman Trend Alert](http://www.herman.net)

It is a well-known fact that the strongest growth in employment comes from small business, not major corporations. Small businesses form a stable and active sub-economy. Recognized or not, small companies—including “micro- businesses” with just a few employees, are in the vast majority of businesses everywhere. Community leaders, anxious to build the economic health of their area, court large businesses with tax incentives



and other inducements. Chambers of Commerce typically invest more time and attention to executives and owners of large and mid-size operations than they do to small firms. Amazingly, some cities still have antiquated laws prohibiting citizens to run businesses from their homes.

Future economic growth will come from micro-businesses operated by one person with a

couple of employees or subcontractors. These companies will be highly responsive, agile, and resilient. We'll describe them as “elastic,” as well, because they'll be able to stretch quickly to handle client projects or customer needs, then shrink back to their original size as soon as the job is done.

[http://www.herman.net/alert/archive\\_4-9-2003.html](http://www.herman.net/alert/archive_4-9-2003.html)

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## The Way of Invention

Most creative people - those folk who have the reputation for choosing their own paths to follow rather than plodding along with the rest of us - approach the act of creating and inventing in the same way. This hardly seems the stuff of a wild duck. Yet, such is the case, according to a goodly number of psychologists who write and talk extensively about the creative process. What's more, those psychologists maintain that everyone can be creative.

### Interchange

[Read Article](#) (PDF, 97 KB, 2 pages)

Henri Dunant, a 30-year-old wealthy Swiss banker and financier was sent by his government to propose a business deal to Napoleon III. He found Napoleon on the plain of Solferino, seconds away from entering a battle with the Austrians. Dunant sat and watched the battle transfixed - entranced the horror taking place below him. After the battle had ended, Dunant entered the small town. Driven by the compassion and sympathy at the suffering he witnessed, he declared that the world should abolish the barbarous act of war.

When Dunant returned to Switzerland he became a fanatic on the subject of peace - preaching it everywhere. His business suffered and he eventually went broke. But he persisted.

At the first Geneva Conference he carried his one-man assault against war. As a result, the first international law against war was passed. In 1901, he was awarded the first Nobel Peace Prize. Despite his nearly hopeless financial state, he donated all his prize money to the worldwide movement he had founded. Despite the fact he died almost totally forgotten by the world, he needed no monument to mark, his grave - except the symbol of the organization he founded - the everlasting monument of the Red Cross.

Make no little plans; they have no magic to stir men's blood and probably themselves will not be realized. Make big plans; aim high in hope and work, remembering that a noble, logical diagram once recorded will never die, but long after we are gone will be a living thing, asserting itself with ever growing insistency. Remember our children and grandchildren are going to do things that will stagger us. Let your watchword be order and your beacon beauty.

Daniel H. Burnham

They must often change who would be constant in happiness or wisdom.

Confucius

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## *Selling the Wheel*

Jeff Cox and Howard Stevens, Simon & Schuster, New York, 2000, 255 pages

Review by [Donna Prestwood](#)

If you are looking for some light, entertaining reading with a great wallop, then *Selling the Wheel* is for you! Not intended as accurate historical tale, *Selling the Wheel* is a parable about sales and the sales cycle. The insights and lessons to be learned from this book are many, and they are not limited to those of us who have "sales" in our blood. In fact this approximately 255-page book may be the most valuable to the non-sales types of the business world, especially if you are an entrepreneur or inventor.

The story begins with the fundamental questions - Who are your customers? Then moves on to an equally fundamental next question - who are your competitors? The book covers the entire sales universe and includes all the major issues of sales and marketing. Described in exquisite detail are the four selling types - **The Closer, The Wizard, The Builder, and The Captain & Crew**. There is a sales type that is best suited for different types of salespersons and selling situations and not surprising, it is also matched to what customers value the most in a particular phase of the market's development. You will no doubt recognize why a product didn't make it. And if it was your product, unfortunately, this book may have come too late. But having read the book, you will now be more informed and next time more prepared. The book is full of tips for salespeople, entrepreneurs, marketing managers and others who want to really understand what sales is all about. Regardless of your perceived sophistication about the subject, you are bound to learn something. And you are guaranteed to be entertained.

Jeff Cox is a creative and prolific professional writer. He has also collaborated on several other business books - *Zapp*, *Herroz*, and *The Goal*. He is also the author of *The Venture: A Novel for Entrepreneurs*.

Howard Stevens is chairman of the HR Chally Group. Chally has collected and analyzed data about salespeople since the mid 1970s.

[Donna Prestwood](mailto:donnap@glocalvantage.com) is one of the founders of [The Innovation Road Map](http://www.theinnovationroadmap.com)

Minnie's Notes...  
Ozzie the Oracle's 6  
Bedrock Questions

- 1 Who are our customers?
- 2 Who are our competitors?
- 3 Why do customers want what we're selling?
- 4 What would make them prefer to buy from us?
- 5 Why might they prefer to buy from our competitors?
- 6 What added value does our salesperson have to offer to make a sale?

From *Selling the Wheel*

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## *The Seeds of Innovation: Cultivating the Synergy that Fosters New Ideas*

Elaine Dundon, AMACON, 2002, 240 pages

Review by [Chuck Frey](#)

If you're looking for a practical blueprint for creating an innovative culture in your company, then Elaine Dundon's new book, *The Seeds of Innovation*, should be on your must-read list.



*The Seeds of Innovation* is one of the most practical guides you'll find anywhere to help you cultivate a higher level of innovation within your team or organization. Whether your company is just starting to explore possible approaches to innovation or is already well along the path toward creating an innovative culture, you will find dozens of inspiring insights, ideas, tips and strategies in this book.

*The Seeds of Innovation* is divided into four main sections:

**An Introduction to Idea Management:** Dundon explains why innovation is no longer desirable, but is now essential to your organization's success in the years ahead. She also helps the reader to understand what innovation is and what is it not, and explains the many applications of innovation (hint: it's not just new products and services!). By creating a shared understanding of innovation management, Dundon lays a solid foundation that will help readers profit from the rest of her book.

**Part One - The Seeds of Creative Thinking:** This section of the book helps you to develop and refine your basic creative thinking skills, including believing in creativity, being curious and making new connections. If you've read many creativity books, you may be tempted to conclude that this is territory that many other creativity authors have covered before, but I assure you that Dundon does a fine job of putting a fresh spin on these foundational creative thinking skills, and helps you understand how they can be applied in common business situations.

**Part Two - The Seeds of Strategic Thinking:** This section of the book delves into strategic applications of creative thinking, including cultivating the ability to see the big picture (an activity that many business executives spend far too little time on!) and understanding what's happening in the present while at the same time looking to the future. She also encourages readers to do extraordinary things - to break out of the "that's the way we do it in our industry" mindset that so many organizations find themselves stuck in - as a means to achieve extraordinary results!

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- Remember that not getting what you want is sometimes a wonderful stroke of luck.
- Learn the rules so you know how to break them properly.
- Don't let a little dispute injure a great friendship.

The Dalai Lama

Creativity arises out of the tension between spontaneity and limitations, the latter (like the river banks) forcing the spontaneity into the various forms which are essential to the work of art or poem.

Rollo May

### A Nine-Step Innovation Process

One of the real gems of *The Seeds of Innovation*, in my opinion, is a 9-step innovation process that Dundon outlines in her book. Her goal, in her words, was to present "a systematic process that can guide the innovative efforts in any department, organization or industry sector... What is needed is a framework or process that can guide innovation activities from start to finish." I think Dundon has succeeded admirably, by offering readers a comprehensive roadmap that nearly any organization can benefit from. The nine steps are:

- Gathering information
- Clarifying the real problem
- Setting innovation goalposts
- Seeking stimuli
- Uncovering insights
- Identifying ideas
- Developing the innovation roadmap
- Gaining commitment
- Implementing the innovation roadmap

I think Dundon's 9-step process can be an effective antidote to the seat-of-the-pants, ad-hoc approach to innovation that many organizations seem to take. Several steps, such as effective selling of ideas and resource allocation, are often overlooked in many organizations, causing otherwise valuable ideas to die premature deaths. Dundon devotes a chapter to each step of the process, including ample advice and real-world examples on how to implement them.

### Other highlights: Innovation goalposts and future vision

One concept that I particularly liked from this book is "innovation goalposts" -- criteria that help focus an organization's innovation efforts on specific business objectives or challenges. Dundon explains: "Just as hockey players and soccer players need a target area in which to direct their effort, innovators also need a target area in which to direct their idea generation and development activities. These goalposts effectively guide the development of new ideas by setting limits on the range of ideas that would satisfy the needs of the particular situation."

Another section of the book that I found to be fascinating was Chapter 5, "Look to the Future." It outlines a number of strategies you can use to seek alternate sources of stimuli, uncover useful insights and identify actionable ideas. Dundon explains how to move beyond your existing, familiar information sources (rarely a source of new ideas), and outlines a number of effective strategies for expanding your research to new, fresh sources.

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## Conclusion

*The Seeds of Innovation* is a remarkable book that is filled with a wealth of actionable insights into how to inspire and manage innovation. Dundon does a terrific job of helping you to break down barriers to conventional thinking, to focus your innovation efforts in more productive directions, and inspires you to use fresh ideas and insights to add more value to your organization - based on extensive real-world experience and research into best practices in innovation management.

This book is a must-read for any executive who is considering implementing an innovation management program, or who simply wants to move his or her corporate culture in a more innovative direction.

[Chuck Frey](mailto:cfrey@innovationtools.com) is the founder of [InnovationTools](http://www.innovationtools.com), one of the best collections of

A professor stood before his Philosophy 101 class and had some items in front of him. When the class began, wordlessly, he picked up a very large and empty mayonnaise jar and proceeded to fill it with golf balls. He then asked the students if the jar was full? They agreed that it was.

So the professor then picked up a box of pebbles and poured them into the jar. He shook the jar lightly. The pebbles, of course, rolled into the open spaces between the golf balls. He then asked the students again if the jar was full. They agreed it was.

The professor picked up a box of sand and poured it into the jar. Of course, the sand filled up everything else. He then asked once more if the jar was full. The students agreed with a unanimous --yes!

The professor then produced two glasses of water from under the table and proceeded to pour the entire contents in to the jar effectively filling the empty space between the sand. The students laughed.

"Now," the professor said, as the laughter subsided, "I want you to recognize that this jar represents your life. The golf balls are the important things -- your family, your partner, your health, your children, your friends, your favorite passions --things that if everything else was lost and only they remained, your life would still be full."

"The pebbles are the other things that matter like your job, your house, your car. The sand is everything else -- the small stuff! "

"If you put the sand into the jar first," he continued, "there is no room for the pebbles or the golf balls. The same goes for your life. If you spend all your time and energy on the small stuff, you will never have room for the things that are important to you. Pay attention to the things that are critical to your happiness. Play with your children. Take time to get medical checkups. Take your partner out dancing. Play another 18 holes. There will always be time to go to work, clean the house, give a dinner party and fix the disposal."

"Take care of the golf balls first -- the things that really matter. Set your priorities. The rest is just filling."

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## *Ubiquity: Why Catastrophes Happen*

Mark Buchanan

Thee Rivers Press, 2000

273 pages

Review by Paul Schumann

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This is not a hard book to read, but it is difficult to integrate into the way you look at the world. Mark Buchanan is a science writer who has worked on the editorial staff of Nature and as a features editor New Scientist. In this book he is writing about the development of a growing field of physics - complexity. Complexity is chaos in critical states. A critical state exists in a system that is not in equilibrium. You may have heard of the "butterfly effect". That is, there is a possibility that a butterfly flapping its wings in South America can cause a storm in Europe weeks later. However, that same butterfly can flap all in wants inside a closed balloon with no effects, other than maybe slightly increasing the temperature of the air in the balloon. The air inside the balloon is in equilibrium, even though the molecules exhibit chaotic behavior. The atmosphere is in a critical, i.e. non-equilibrium, state. A small perturbation somewhere can lead to very big changes.

If the air inside the balloon is in equilibrium, its past, present and future are all the same. It has no "history". When things are in non-equilibrium, history matters since what happens now can never be washed away but affects the entire course of the future.

The applications of this model extend from the piling of grains of sand in an hourglass to economics.

"Despite what scientists had previously believed, might the critical state in fact be quite common? Could riddling lines of instability of a logically equivalent sort run through the Earth's crust, for example, through forests and ecosystems, and perhaps even through the somewhat more abstract "fabric" of our economics? Think of those first few crumbling rocks near Kobe, or that first insignificant dip in prices that triggered the stock market crash of 1987. Might these have been "sand grains" acting at another level? Could the special organization of the critical state explain why the world at large seems so susceptible to unpredictable upheavals?"

"A decade of research by hundreds of other physicists has explored this question and taken the initial idea much further. There are many subtleties and twists in the story to which we shall come later in this book, but the basic message, roughly speaking, is simple: The peculiar and exceptionally unstable organization of the critical state does indeed seem to be ubiquitous in our world. Researchers in the past few years have found its mathematical fingerprints in the workings of all the upheavals I've mentioned so far, as well as in the spreading of epidemics, the flaring of traffic jams, the patterns by which instructions trickle down from managers to workers in an office, and in many other things. At the heart of our story, then, lies the discovery that networks of things of all atoms, molecules, species, people, and even ideas have a marked tendency to Continued

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History is the science  
of things that are never  
repeated.

Paul Valery

The purpose of models  
is not to fit the data,  
but to sharpen the  
questions.

Samuel Karlin

Eventually, everything  
we currently believe  
will be revised. What  
we believe, then, is  
necessarily untrue. We  
can only believe in  
things that are not the  
truth...I think.

Max Gyll

organize themselves along similar lines. On the basis of this insight, scientists are finally beginning to fathom what lies behind tumultuous events of all sorts, and to see patterns at work here where they have never seen them before. "The mathematical models of this science don't really exist yet, and may never exist. We have empirical observations and we have games. The empirical data suggests that all these phenomena follow a power curve, and all with roughly the same shape. For example, looking at earthquakes, as the strength of the earthquake doubles, the frequency of occurrence drops by one fourth. This simple rule seems to apply to many examples.

So what does this have to do with creativity, strategy, leadership and innovation in organization? Well, I'm not sure yet. My intuition tells me that this is very important to those concepts. It may help us understand the frequency of occurrence of breakthrough ideas and innovation. It may help explain why some innovations cause such change and others do not. It may help produce better strategies to deal with chaotic and unstable markets. And, it may provide lessons for leaders in chaotic times. I'd welcome a discussion.

[Paul Schumann](mailto:pauls@glocalvantage.com) is a cofounder of [Glocal](http://www.glocalvantage.com)

#### The Innovation Gap

80% of companies polled feel innovation is important  
4% say they consider themselves superior at innovation

#### Bridging the Innovation Gap

The Synectics survey "Succeeding at Innovation" reveals a gap between what leading corporations say about innovation and what they actually do about it. They highlight a consistent connection between a company's commitment to innovation and its success in the marketplace.

**Sales:** Sales increase in highly innovative companies was nearly twice as great as in less innovative companies. The more innovative companies reported an average increase of 10.8 % while the least innovative companies reported only 5.7 %.

**Profits:** Profit increase in the most innovative companies was more than three times as great as in less innovative companies; they reported an average profit increase of 51 % against just 14 % for less innovative companies.

**Market share:** Market share increase for the more innovative companies was more than twice as great, they reported a 59 % increase in market share growth compared to only a 27 % increase of less innovative companies.

**Innovation budget:** More than twice as many highly innovative companies have a specific budget for innovation compared with less innovative companies.

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## *The Tipping Point: How Little Things Can Make a Big Difference*

Malcolm Gladwell

Little, Brown & Company, 2000

301 pages

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Review by Paul Schumann

This book is an interesting and easy read. Gladwell introduces the idea of a tipping point - a moment when an idea, trend or social behavior crosses a threshold, tips, and spreads like wildfire. He integrates observations from a variety of applications from Paul Revere's ride to the lowering of crime in New York to the spread of Hushpuppies to epidemics, among others.

He concludes that there are three rules of the tipping point - the law of the few, the stickiness factor and the

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power of context. In defining the law of the few, he reiterates some of the well-known observations about networking, but adds some additional structure. He identifies three types of people that have to be operating in the network - connectors, mavens and salesmen. Connectors are people who have many connections. But, he goes on to describe the importance of weak links (links with people we don't know well). It's apparently not telling friends about something that helps, its telling acquaintances.

Using job hunting as an example, he reports that successful job applicants found their jobs in a variety of ways in a 1974 study - 20% applied directly, 19% used formal means and 56% used personal connections. Of those who used a contact to find a job, 17% saw that contact often, 56% occasionally and 28% rarely. "People weren't getting their jobs through their friends. They were getting them through their acquaintances." Why, because we share much in common with our friends so nothing new is added. Our acquaintances have their own networks that bring entirely new people into the web.

Mavens are experts who act as sources on information and can qualify the idea or product. And, salesmen are well, sales people.

The stickiness factor becomes harder to quantify. There is not a science of what makes something stick, that is stay in a person's mind. It's an art. If you create something,

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### The Five People of Innovation

- Idea people
- Intrapreneurs
- The Intrapreneurial team
- The sponsor
- The climate maker

Pinchot & Company

peoples' response to it can be tested. Stickiness is not in the content but in its package. "There is a simple way to package information that, under the right circumstances, can make it irresistible. All you have to do is find it."

The power of context refers to the conditions and circumstances of times and places for a tipping point. "But the lesson of the Power of Context is that we are more than just sensitive to changes in context. We're exquisitely sensitive to them." In reviewing studies on crime and behavior he states, "Weird as it sounds, if you add up the meaning of the Stanford prison experiment and the New York subway experiment, they suggest that it is possible to be a better person on a clean street or in a clean subway than in one with trash and graffiti." The other major part of the context he discusses is the influence of groups. "Once we're part of a group, we're all susceptible to peer pressure and social norms and any number of other kinds of influence that can play a critical role in sweeping us up in the beginnings of an epidemic." If you want to introduce new concepts and beliefs and bring about change that will persist, "you need to create a community around them, where those new beliefs could be practiced and expressed and nurtured."

This is a good book to read for anyone interested in innovation. It's the type of book I like, one that synthesizes knowledge from many fields. And, I believe it offers some insights of value to innovation practitioners. Read together with Ubiquity, it can provide insight and meat for a lot of discussion.

Malcolm Gladwell is a former business and science writer at the Washington Post. He is currently a staff writer for The New Yorker.

Paul Schumann is a cofounder of Glocal Vantage, Inc. & The Innovation Roadmap.

Read Chuck Frey's comments about this quote on his <http://www.innovationweblog.com>.

Humanity spends a lifetime trying to find a voice -- trying to be heard. Some voices lead, some follow, some murmur and are never understood. Some are nourished, some are malnourished... some are silent. Even strong voices soon pass, but their messages light up stars and constellations far beyond their dreams. A voice never knows when its message is a light which others will use to navigate their lives. Send out the best messages, for they may be shaping future generations.

Richard de Gallienne

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## Breakthrough Thinking with TRIZ

Larry Ball, 2nd Ed., 2004, Loose-leaf notebook, 80 pages.

Reviewed by Ellen Domb

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The purpose of most book reviews is to tell the reader whether the book is worth buying and reading. As reviewers recognize the value of time, more emphasis is placed on whether the reader's investment of time will be worthwhile. Training Magazine even designates books as "Pass", "Borrow" or "Buy"!!! The TRIZ Journal will continue to review free books, because we know the value of our readers' study time.

The first edition of Larry Ball's *Breakthrough Thinking* was published as a long article in the March, 2001, issue of the TRIZ Journal, and has been among our most popular downloads. It has been translated into Spanish and into Japanese, and has been of great help to many teachers and students of TRIZ.

Here's the short version of the book review: if you liked the first edition, you'll like this even more. If you didn't see the first edition, go look at the free download of this edition.

Here's the longer version of the book review:

Larry Ball has been teaching TRIZ for 10 years, and he has learned a lot about what makes it hard for students to learn TRIZ. Inconsistency in vocabulary and inconsistency in the use of tools are among the leading causes of students' frustration. Larry has deconstructed some of the classical tools of TRIZ, and reconstructed them in a way that smoothes the students' pathways through the problem solving process.

Each step has a hierarchy of questions, and the output of each question is the input to the next question. This step-by-step method will be very easy for readers to follow.

This book is available from the <http://www.triz-journal.com/Services/> page of the TRIZ Journal as a free download for individual study, or in a printed version in full color for

Common images replace abstract language (and make the vocabulary fit well with Six Sigma training systems, too.) For example, problems are defined in terms of dependent variables (outputs) and independent variables (inputs) and the positions of the knobs that control the values of the inputs. The "knob" metaphor is carried throughout the book, and Larry makes it quite clear, in a way that many Six Sigma books do not, that knobs can have continuously variable positions, binary (on/off) choices, multiple choices, or can become removed, if the input is no longer necessary to achieve the output.

The function analysis method is compatible with both Su-Field analysis and TOP methods and will be easily understood by users of TechOptimizer™, Ideation

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Workbench™, and CREAX Innovation Suite™. The steps for creating a “long form” of a function definition are very clear, and the examples are well illustrated and easy to remember. Larry’s method of teaching the long form of function definition, then letting the student use the short for (long=describe the function with a sentence, short=use one or two words) makes a lot of sense to the reviewer, who has frequently struggled to help students develop good function statements. In this book, the function statement is the key to the entire sequence of problem solving steps, so he invests extraordinary care in detailing the steps to create good function statements.

#### Who is the audience for *Breakthrough Thinking with TRIZ*?

Short answer: Teachers, students, and practitioners of TRIZ. Everybody except absolute beginners.

Longer answer: Absolute beginners should take a class, or read one or two other books first. Larry has condensed so much information into such a compact presentation that *Breakthrough Thinking with TRIZ* will give everyone who knows something about TRIZ a lot to think about. Don’t try to read *Breakthrough Thinking with TRIZ* straight through—pick a topic, and explore it in depth, and see if it changes your ideas about things you’ve been wrestling with for years! TRIZ teachers in particular will find this book a treasure-trove of new examples and illustrations, as well as refined processes and methods. (Contact Larry directly for permission to use material from the book in your courses.)

Larry Ball has done a service to the TRIZ community by “packaging” his work into this format. We are interested in the experiment—will people read the free version, then buy the printed version, or will they just keep the free version? Please let us know what you think of the format, as well as the book!

Ellen Domb is Editor of the <http://www.triz-Journal.com> TRIZ Journal. She can be contacted at [editor@triz-Journal.com](mailto:editor@triz-Journal.com)

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# The Innovation Advantage

*The Integration of Innovation Into Strategy*

## Introduction

Innovation is the means by which enterprises create wealth. Enterprises that learn how to integrate innovation into strategy, and strategy into the process of innovation, will gain a competitive advantage and optimize the enterprise's creation of wealth.

Integration of innovation into strategy requires two tools -- the Innovation Profile and the Innovation Road Map. The Innovation Profile provides a way to analyze the innovation opportunities and threats of the market, strategy of competitors, capability of the enterprise, and desires of the stakeholders.

The Innovation Profile is a matrix of nine different types of innovation. The Innovation Road Map includes customers, competition, technology, stakeholders, enterprise capability and the enterprise's capacity for change. This Road Map enables the creation of multiple scenarios based on different innovation strategies that are necessary for strategic wealth creation decisions.

Business has only two basic functions:  
Marketing and innovation. Marketing and  
innovation produce results. All the rest are  
costs.

Peter Drucker.

## What is Innovation?

Innovation in marketing is also essential. Therefore business really has only one basic function -- innova-

tion. Innovation is the basis of all competitive advantage. Innovation is the means by which enterprises anticipate and fill customer needs. Innovation is the way that enterprises utilize technology.

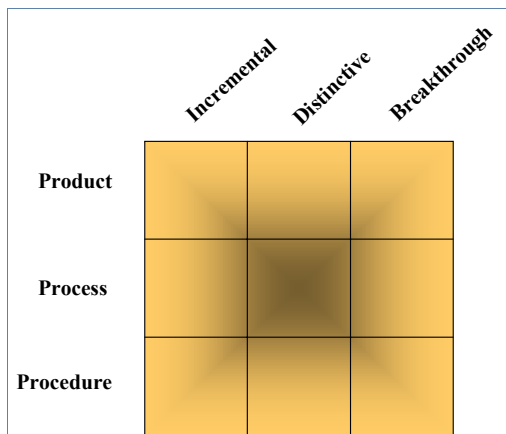
Innovation endows resources with a new capacity to create wealth or creates a new resource. Innovation results from the enterprise's way of implementing new ideas, of turning the creative concepts of its members into realities. It can cause change or it can exploit change. Systematic innovation which exploits change is generally the most effective. Strategic innovation is the purposeful and organized search for changes, and the systematic analysis of the opportunities and threats such changes might offer for the creation of wealth.

## The Innovation Profile

Everyone in an enterprise must be innovative; that is the only way that the enterprise will be able to change fast enough to meet the demands of its customers, stay technologically competent, effectively deal with competition, and respond to the pressures of change both from within and without.

To allow each person in the enterprise to be innovative, the enterprise must have a broad definition of innovation, one that encompasses all members of the enterprise. This definition must be able to transcend organizational structures and be useful to every function, from marketing through research to development to manufacturing.

Members of the enterprise at all levels must be able to communicate effectively with each other about innovation. These kinds of results can be accomplished



with an Innovation Profile.

The Innovation Profile shows nine different types of innovation. Along one axis is displayed the nature

of the innovation. The other axis shows the class of the innovation. The nature of the innovation is classified into one of three categories:

**Product** innovations involve the way things interact with things. Product innovations are those involving the function provided to customers or the form that function takes. Examples include improvements in industrial machinery, consumer goods, software, and component parts.

**Process** innovations involve the interaction of people with things. Process innovations are those that involve the way a product is developed, produced, and provided. Examples include improvements in manufacturing, distribution, and development systems.

**Procedure** innovations involve the way people interact with people. Procedure innovations are those that involve the way in which products and processes are integrated into the operations of the enterprise. Examples include improvements in marketing methods, administrative methods, sales terms and conditions, and requirements generation.

The second dimension of the classification structure -- the class of innovation -- indicates how great a change from present practice the innovation represents.

**Incremental** innovations are those that reflect a relatively small improvement over present products, processes, and procedures. These are advances that are a little better, a little faster, or a

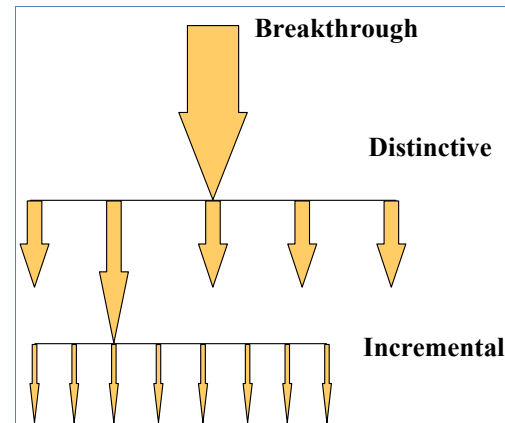
little cheaper. In the traditional S-curve, the relatively flat

portions of the S-curve at its beginning and end have a high incidence of incremental innovations.

**Distinctive** innovations are those that provide significant advances or improvements, but are not based on fundamentally new technologies or approaches. The middle portion of the S-curve when rapid progress is made usually has a high incidence of distinctive innovation.

**Breakthrough** innovations are those that are based on fundamentally different technologies and approaches, and that allow the performance of functions that were previously not possible, or the performance of presently possible functions in a manner that is strikingly superior to the old.

Breakthrough innovations result in a significant number of distinctive innovations, and these, in turn, result in a flood of incremental innovations. Breakthrough innovations make the changes from one S-curve to another.



Breakthrough innovation results in the creation of a new industry or class of technologies -- the creation of a new set or clusters of subsequent, less significant distinctive innovations.

A distinctive innovation is the creation of a new member in the set initiated by a breakthrough innovation. Incremental innovations result in changes to distinctive innovations as shown schematically below:

At the societal level, the development of the incandescent light was a breakthrough innovation. The changes from carbon filaments to metal filaments and from evacuated bulbs to gas-filled bulbs were distinctive innovations. The development of new metals and glasses



that are more reliable and less expensive were incremental innovations.

When these two dimensions of innovation are combined into a matrix, a powerful innovation tool results: The Innovation Profile.

Everyone within an enterprise can and should innovate in one or more areas in this map. The Innovation Profile is a very useful tool for discussions with individuals and groups about innovations and their goals; it can also be used as a creativity enhancement tool.

### **What is Strategy?**

A strategy is a description of the manner in which a company or enterprise intends to gain a competitive advantage. Strategies describe actions aimed directly at altering the strength of the enterprise relative to that of its competitors. Strategies should allow the enterprise to gain a relative advantage through measures its competitors will find hard to follow and allow the advantage to be extended even further.

Strategy development results from the continuous application and interaction of three fundamental thinking skills -- identification of elements and scope, analysis, and synthesis.

The basic elements of a strategy for an enterprise are -- the market (comprised of customers, competitors and technology embedded in a milieu of social, political, economic, demographic and scientific driving forces for change), stakeholders, enterprise capability and enterprise capacity. The enterprise capability and capacity are defined by its projects, resources and culture.

### **Innovation Strategies**

There are seven basic innovation strategies:

#### ***Customer Driven***

An enterprise that is customer driven focuses its innovation efforts to meet the needs of its customers. Embedded in this trait is the assumption that the enterprise understands the needs of its customers, which is not always the case. The kind of innovation that results will depend entirely on the type of customer the enterprise chooses to focus on. The feedback mechanisms will closely tie the enterprise and

customer set together. Internal processes and procedures will be focused on the end customer as opposed to internal considerations. The measurements of the enterprise will be heavily loaded with customer satisfaction assessments. This type of enterprise is primarily reactive; it makes no move until the customer says so. In today's environment customer-driven enterprises have a strong emphasis on traditional quality. They cherish the long-term relationships with their customers and this may even translate into personal friendships. Commonly, the management of the enterprise will come from a background of sales and marketing, internally promoted.

Service enterprises are almost always customer driven. If they aren't, they will quickly lose their customers. However, if they are only customer driven, they will lose their customers to their competitors. The entertainment and food industries are also primarily customer driven. It is rare that one wants to go to an experimental restaurant, and entertainment becomes art as it moves away from being customer driven.

Suppliers of large enterprises are customer driven. Many times their market is dominated by a single customer. They have grown up and with their customer, and they live, and unfortunately die, with that primary customer.

The Innovation Map of a customer-driven enterprise is flat. Any particular type of innovation is just as likely as any other type. It depends on the type of customer being satisfied and those customers' specific needs. Therefore, while there are specific innovation tendencies for individual customer-driven enterprises, there is no general tendency.

#### ***Competition Driven***

Competition-driven enterprises are those that track carefully each move of their competitors and respond in like fashion. Their highest goal is to achieve the status of the "fast second." Acer grew from less than a \$100 million to a \$1 billion company and the largest computer manufacturer in Taiwan, with the strategy of being the best second. Enterprises that are competitor driven are initially reactive. As they mature and reach an advanced stage of development of their strategy they become predictive, and they do an excellent job of tracking and predicting their, of-

ten multiple, competitors.

Competition-driven companies typically wait for someone else to develop the market before they make entry. They are typically managed by operations people, who keep constant pressure on getting the product out. Measurements emphasized are market share and cycle time. Good examples include consumer goods companies of all types; in particular, the soft drink companies, over-the-counter drug companies, and automobile companies are the epitomes of competitor-driven enterprises.

The innovation profile of competition-driven enterprises is flat across products, processes, and procedures. The activity focus will shift back and forth among these as the battle goes forward in time. However, there are differences in the class of innovations. Competition-driven enterprises are not likely to produce breakthroughs; instead, they are much more likely to produce incremental and distinctive innovations.

### ***Technology Driven***

Technology-driven enterprises are caught up in the "technology chase." As in the film and television series earlier in this decade, *The Paper Chase*, which depicted the pursuit of a law degree, the chase itself becomes the dominating driving force. The technology chase is an alluring quest. Technology is developed worldwide, and to enter into the technology chase is to compete in a global arena. However, the research and product development portions of an enterprise can easily drift away from the market in the technology chase. It is easy for them to start to consider the global technology competition instead of delighting or even satisfying customers. They argue for competitive advantage based on technological innovation, and make compelling arguments. The quest is alluring because there seems to be endless potential in the technology. Technology appears to be able to solve every problem, and, each advance of the technology just serves as a spark to ignite the next stage of advance. Unfortunately, because technology follows the traditional S curve of advancement, as the technology reaches the saturation point, each new development costs more than the one before. That's when the real game begins, as the technologists then have to ask for more and more money to keep the game alive.

Technology-driven companies typically are either managed by a technical person; or else the R&D parts of the enterprise are very strong. R&D may even operate semi-autonomously. Because the enterprise needs money to fuel the technological development, and also to counterbalance the influence of the technologists, quite often these enterprises have strong financial managers who can watch the money, and leverage its use. These enterprises start out being very conscious of their technological competitors, but as they see more and more of their competitive advantage being built on the technology, they turn inward, they become insular, and also very security conscious.

The innovation profile of a typical technology-driven enterprise would indicate a strong influence on breakthrough and distinctive innovations, mainly in the product area.

### ***Stakeholder Driven***

The nature and character of a stakeholder-driven enterprise vary depending on the type of stakeholder.

There are both internal and external stakeholders. Stakeholders -- or, as one pundit called them, "snake holders" -- can be the enterprise's employees, an individual visionary within the enterprise, the community within which the enterprise exists and operates, or the stockholders; they may be blends of both internal and external, such as labor unions.

#### ***External Stakeholders***

An institutional stockholder has different demands of the enterprise than an individual investor. Enterprises driven by institutional stockholders typically invest a great deal of energy in making each quarterly income statement look good, since the price of the stock rises and falls depending on the investors' confidence in the enterprise. This drives a lot of short-term thinking within the enterprise, and influences the enterprise to institute an emphasis on innovation that reduces costs. A typical innovation profile would show a strength in incremental process and product innovations.

An individual investor typically would be a little more patient, although even this is changing in the United States as investors search for faster returns. However, they don't typically have the collective clout to influence companies that the institutional investors have. They would typically prefer to have the company in-

vest more in distinctive innovations than the institutional investor, and in some cases are willing to invest in breakthroughs. This is especially true of the investors in privately held companies. Venture capitalists, business "angels," and private investors typically look more for the potentially higher rewards that come from the higher-risk breakthrough and distinctive innovations. They also would prefer to see tangible results of the innovations, so they look more for product innovations. They are rarely interested in process innovations unless they involve hardware or software. However, there is now a growing interest in procedural innovations as a significant return for E-commerce and service-oriented enterprises has been shown.

Enterprises can be strongly driven by the surrounding community as well. The enterprise's attention is totally on the needs and requirements of the surrounding community. Except in extreme cases, this is a short-lived phenomenon. Usually an issue arises in which the enterprise finds itself embroiled, and it must respond to the community in a timely fashion. However, counterexamples do exist. In Austin, Texas, for example, the real estate development enterprises operating there are to a large extent captives of the strong community emphasis on environmental quality. These enterprises must demonstrate their dedication to the environment before they can succeed in that community.

More traditional examples are enterprises like the McNeil Consumer Products Company, which dealt successfully with its Tylenol-brand tainted products. This situation has become a classic example of how to react to community pressure. On the other hand, Exxon and its unsuccessful dealings with the global community during and after the *Exxon Valdez* disaster provide the classic example of how *not* to deal with community pressure.

The innovation profile of the stakeholder-driven enterprise is typically strongest in the procedural area. The nature of community requirements will cause the enterprise to look toward breakthrough, or at least distinctive, innovations, particularly in the area of communications.

Another way of defining *community* is by looking at the regulatory arena, since regulatory systems operate in many environments and generally represent a

greater community. Enterprises operating in a heavily regulated environment often find themselves in highly reactive modes. A good example of this is the current regulatory environment for the pharmaceutical industry. The Federal Drug Administration has taken some very strong stances, and those enterprises that wish to participate in the future of this industry must respond. Regulations appropriately conceived and written can actually incent innovations, but generally they act as inhibitors of innovations. This can become a vicious cycle.

Two most interesting historical examples of regulation incenting innovation are the antitrust cases brought by the Justice Department against AT&T and IBM. In AT&T's situation, the company took advantage of the shifting environments to serve everyone's purposes, especially its own. Understanding that the efforts behind this response to the community were tremendous, and difficult to accomplish, the situation still afforded great opportunity for AT&T to innovate in all areas. Ultimately, this may prove to have been the opportunity of an organizational lifetime.

IBM's reaction on the other hand, was to fight the driving forces for change in an attempt to hold on to the past. They won their case and kept IBM together, only to have the driving forces prevail and tear it apart a few years later. When this happened, it actually caught IBM completely off guard. They had no time for planning, much less to gain control of the situation.

The Justice Department case against Microsoft is resolved, but it will be years before we will be exactly sure of the total impact it will have on the company's innovation profile.

#### *Internal Stakeholders*

Internal stakeholders can also drive innovation. Individual leaders with a personal vision of the future can drive an enterprise in an attempt to make that vision a reality. The innovation profile of the individual visionary is, not surprisingly, breakthrough, perhaps distinctive; it is never incremental.

Employees can become strong stakeholder forces in extreme situations. Their impact on the enterprise and its innovation capabilities can be significant. In recent times several situations have developed in which the employees and their needs have overtaken

the enterprise. These situations typically arise when an outside force is threatening the enterprise. Generally, the innovation profile of employee-driven enterprises is high in the procedural area.

#### *Internal/External Stakeholders*

An example of a blend of the internal and external driver is labor unions. They are composed of members of the enterprise, but have management that is outside the enterprise. In the past there have been many enterprises in the United States that were labor union driven. This forced an emphasis on procedural innovations, quite often in the form of benefits and working conditions, which often inhibited other kinds of innovation. Enlightened labor leaders have now recognized this problem and are helping enterprises focus on product and process innovations through the quality movement.

#### **Project Driven**

Enterprises that are project driven are dominated by the need to experience the sense of accomplishment that comes from successful completion of projects. Their projects involve very large and complex systems that take on a life of their own. Examples populate the federal laboratories, the space program, and groups within very large companies. The completion of the task becomes the driving force for the enterprise, even if the project starts initially from a customer- or technology-driven focus. The superconducting supercollider project, until its cancellation, offered a good example of a project-driven enterprise. An excellent earlier example is NASA's efforts to put a man on the moon. The innovation profile is strongly breakthrough and distinctive, with an emphasis on product innovation.

#### **Resource Driven**

Enterprises that are resource driven quite often view themselves as being constrained. Resources (money, people, facilities, intellectual property, and strategic relationships) accumulated from past accomplishments need not be "boat anchors" to innovation; however, the enterprise must be willing to let go of the past if the past does not serve its innovation purposes today. This doesn't necessarily mean that the enterprise should rid itself of its resources. Resources are renewable and thus can continue to benefit the enterprise indefinitely. It is only when the mentality of the enterprise does not allow the resource to be changed, insisting instead

on milking the resource of its value without investment in its future, that there are destructive consequences. In fact, the "cash cow" mentality is deadly in today's environment.

Quite often innovations in the ways the resources are used can drive the enterprise in very positive ways. For example, a small start-up company, low on money and short of people, can be innovative in its use of strategic relationships to grow both itself and its strategic partners.

Resource driven enterprises place a great deal of emphasis on assessing their positions relative to "best practices" or "best of breed" measures. These benchmarking measurements are largely focused on and useful for enterprises that are resource driven. This is a "mental bondage" problem; these enterprises view themselves as constrained and therefore act in that manner. Whereas enterprises that are competitor or technology driven use measurement tools associated with technology forecasting, resource-driven enterprises make heavy use of benchmarking tools.

The innovation profile of the resource-driven enterprise shows predominately incremental process and product innovations. No large changes, which are associated with risks, are considered.

#### **Culture Driven**

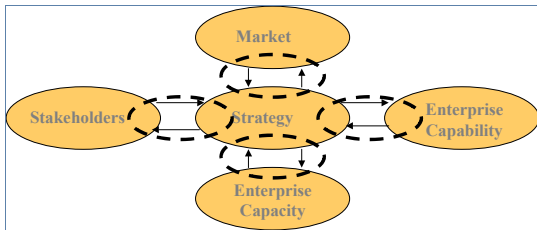
Culture-driven enterprises can have any type of innovation profile. It really depends on the culture. A company like Genentech has a breakthrough product orientation, whereas an enterprise like the federal government has an orientation to incremental procedure. When the enterprise is culture driven, it is a slave to its past. It has painstakingly developed the culture through trial and error to find the formula for success, and that culture is very difficult to change.

Culture-driven enterprises can be very efficient when the culture is developed to optimize the enterprise's operation. When the culture is initially developed, it is also effective. The early culture matches the capabilities of the enterprise to the market, but as the environment changes the culture can get out of phase with the market, and then the enterprise will run into trouble. If attention has not been paid to the market for a long time, the culture will be vastly different than what is required, and there will not be enough time to make needed changes.

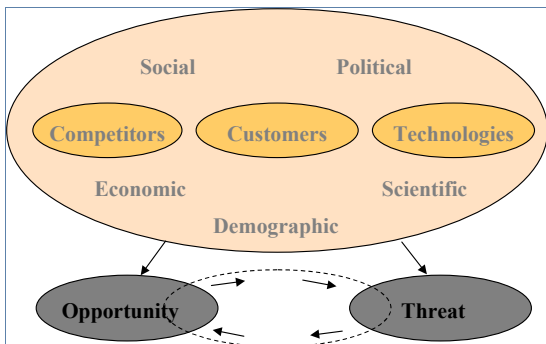
The culture of an enterprise can have a life of its own; in spite of many attempts to change it, it remains the same. The U.S. Postal Service is a good example of a culture- and resource-driven enterprise that has yielded very little to several attempts at change.

### Balanced Innovation Strategy

In today's environ-



ment, it is highly unlikely that anyone of these pure, basic innovation strategies would yield competitive advantage for very long. The opportunities and threats in the market change too rapidly, and the desires of stakeholders are mercurial. Moreover, what will attract and develop the resources of an enterprise today will very likely not be the same next year. What is needed therefore is not the selection and adoption of one of the basic strategies, but a mix of strategies that could and will likely



change over a relatively short time period. The in-

novation strategy of an enterprise must be balanced and dynamic.

### The Innovation Road Map

The Innovation Road Map is a framework for an enterprise to develop innovation strategy. It facilitates the development of a balanced innovation strategy in a systematic way so that the resulting strategy has the best chance to provide sustainable competitive advantage for the enterprise over its competition. The five basic elements of the Innovation Road Map are -- market opportunities and threats, stakeholder desires, the present ca-

pability of the enterprise and its capacity for future development integrated into a strategy.

The market is comprised of three elements -- customer needs, technological capability to meet those needs (or create new needs) and competitive response to those needs and capabilities. All of this is affected by driving forces for change -- social, political, demographic, economic and scientific.

### Determining Your Innovation Strategy

In determining the most appropriate innovation strategy for an enterprise, a number of factors must be considered:

- What is the time frame the enterprise considers to constitute its initial "window of opportunity"?
- What is the market the enterprise chooses to serve? What are the critical driving forces for change affecting the marketplace?
- What are the current and future needs of the customers in the marketplace? Is the market relatively satisfied with present products and services, or is there pent up desire for new capabilities?
- Who are the real competitors, and what are they doing? Are present competitors stressing small advances, or are they emphasizing more basic changes? What competitive responses can be anticipated to meet the needs of customers? Are new and unexpected competitors emerging?
- What are the key technologies in the marketplace? Are they mature, developing, or in a state of transition? What are the underlying supportive and enabling technologies? What is their status? Are there any new technologies that could affect the marketplace?
- What resources are available for innovation efforts? What is the state of the enterprise's personnel, facilities, funding, intellectual property, and strategic alliances?
- Who are the stakeholders of the enterprise? What are their needs, hopes, and desires?
- What are the long- and short-term objectives of the enterprise? Does it seek to be on the forward edge of technology and organizational development, or is it comfortable with a more conservative approach?
- What is the current culture of the enterprise? What type of change does it permit?

The market-driven innovation methodology is a



mechanism to answer strategically all the questions above, plus others, and then to structure the responses in such a way that informed decisions can be made. Moreover, innovation can be systematically integrated into the enterprise's strategy. The result is a creative and productive, purposeful and flexible innovation program.

### **About the Authors**

Donna C. L. Prestwood and Paul A. Schumann, Jr., co-founders of Glocal Vantage, Inc. (<http://www.glocalvantage.com/>) are experts with extensive experience and abilities in consulting, facilitation, research and training. Since forming their company twelve years ago they have developed innovation strategies and action plans that have provided competitive advantage for their clients in a variety of fields. They work hand-in-hand with their clients to assure successful implementation. Donna and Paul are recognized internationally, and are two of the world's leading authorities on strategy and innovation. Their book, ***Innovate!/: Straight Path to Quality, Customer Delight and Competitive Advantage*** (McGraw-Hill, 1994) encapsulates many of the concepts and processes that form the basis of their approaches to solving complex organizational and business problems.



# Living with Change and Uncertainty

While change and uncertainty have always been a part of life, what has been shocking over the last few years has been both the quantum and suddenness of change.

For many people who were cruising along on placid waters, the wind was knocked out of their sails. The entire logic of doing business was turned on its head. Not only business, but also every aspect of human life has been impacted by the change. What lies ahead is even more dynamic and uncertain.

I would like to use this opportunity to share with you some of our own guiding principles of staying afloat in a changing world. This is based on our experience in Wipro. I hope you find them useful.

First, be alert for the first signs of change. Change descends on everyone equally; it is just that some realize it faster. Some changes are Sudden but many others are gradual. While sudden changes get attention because they are dramatic, it is the gradual changes that are ignored till it is too late.

You must have all heard of story of the frog in boiling water. If the temperature of the water is suddenly increased, the frog realizes it and jumps out of the water. But if the temperature is very slowly increased, one degree at a time, the frog does not realize it till it boils to death.

You must develop your own early warning system, which warns you of changes and calls your attention to it. In the case of change, being forewarned is being forearmed.

Second, anticipate change even when things are going right. Most people wait for something to go

wrong before they think of change. It is like going to the doctor for a check up only when you are seriously sick or thinking of maintaining your vehicle only when it breaks down. The biggest enemy of future success is past success. When you succeed, you feel that you must be doing something right for it to happen. But when the parameters for success change, doing the same things may or may not continue to lead to success. Guard against complacency all the time. Complacency makes you blind to the early signals from the environment that something is going wrong.

Third, always look at the opportunities that change represents. Managing change has a lot to do with our own attitude towards it. It is proverbial half-full or half-empty glass approach. For every problem that change represents, there is an opportunity lurking in disguise somewhere. It is up to you to spot it before someone else does.

Fourth, do not allow routines to become chains. For many of us the routine we have got accustomed to obstructs change. Routines represent our own zones of comfort. There is a sense of predictability about them. They have structured our time and even our thought in a certain way. While routines are useful, do not let them enslave you. Deliberately break out of them from time to time

Fifth, realize that fear of the unknown is natural. With change comes a feeling of insecurity. Many people believe that brave people are not afflicted by this malady. The truth is different. Every one feels the fear of unknown. Courage is not the absence of fear but the ability to manage fear without getting paralyzed. Feel the fear, but move on regardless.

Sixth, keep renewing yourself. This prepares you to anticipate change and be ready for it when it comes. Constantly ask yourself what new skills and competencies will be needed. Begin working on them before it becomes necessary and you will have a natural advantage. The greatest benefit of your education lies not only in what you have learnt, but in working how to learn. Formal education is the beginning of the journey of learning. Yet I do meet youngsters who feel that they have already learnt all there is to learn. You have to constantly learn about people and how to interact effectively with them. In the world of tomorrow, only those individuals and organizations will succeed who have mastered the art of rapid and on-going learning.

Seventh, surround yourself with people who are open to change. If you are always in the company of cynics, you will soon find yourself becoming like them. A cynic knows all the reasons why something cannot be done. Instead, spend time with people who have a "can-do" approach.

Choose your advisors and mentors correctly. Pessimism is contagious, but then so is enthusiasm. In fact, reasonable optimism can be an amazing force multiplier.

Eighth, play to win. I have said this many times in the past. Playing to win is not the same as cutting corners. When you play to win, you stretch yourself to your maximum and use all your potential. It also helps you to concentrate your energy on what you can influence instead of getting bogged down with the worry of what you cannot change. Do your best and leave the rest.

Ninth, respect yourself. The world will reward you on your successes. Success requires no explanation and failure permits none. But you need to respect yourself enough so that your self-confidence remains intact whether you succeed or fail. If you succeed 90 per cent of the time, you are doing fine. If you are succeeding all the time, you should ask yourself if you are taking enough risks. If you do not take enough risks, you may also be losing out on many opportunities. Think through but take the plunge. If some things do go wrong, learn from them.

I came across this interesting story some time ago:

One day a farmer's donkey fell down into a well. The animal cried piteously for hours as the farmer tried to figure out what to do. Finally he decided the animal was old and the well needed to be covered up anyway it just wasn't worth it to retrieve the donkey. He invited all his neighbors to come over and help him. They all grabbed a shovel and begin to shovel dirt into the well. At first, the donkey realized what was happening and cried horribly. Then, to everyone's amazement he quieted down. A few shovel loads later, the farmer finally looked down the well and was astonished at!

What he saw. With every shovel of dirt that fell on his back, the donkey was doing some thing amazing. He would shake it off and take a step up. As the farmer's neighbors continued to shovel dirt on top of



the animal, he would shake it off and take a step up. Pretty soon, everyone was amazed as

the donkey stepped up over the edge of the well and totted off! Life is going to shovel dirt on you, all kinds of dirt. The trick is too not to get bogged down by it. We can get out of the deepest wells by not stopping. And by never giving up! Shake it off and take a step up!

Tenth, in spite of all the change around you, decide upon what you will never change - your core values. Take your time to decide what they are but once you do, do not compromise on them for any reason. Integrity is one such value. These have contributed to our success, including our parents and others from our society. All of us have a responsibility to utilize our potential for making our nation a better place for others, who may not be as well endowed as us, or as fortunate in having the opportunities that we have got. Let us do our bit, because doing one good deed can have multiple benefits not only for us but also for many others. Let me end my talk with a small story I came across some time back, which illustrates this very well.

This is a story of a poor Scottish farmer whose name was Fleming. One day, while trying to make a living

for his family, he heard a cry for help coming from a nearby bog. He dropped his tools and ran to the bog. There, mired to his waist in black muck, was a terrified boy, screaming and struggling to free himself. Farmer Fleming saved the boy from what could have been a slow and terrifying death. The next day, a fancy carriage pulled up to the Scotsman's sparse surroundings. An elegantly dressed nobleman stepped out and introduced himself as the father of the boy Farmer Fleming had saved.

"I want to repay you," said the nobleman. "I'll make you a deal. Let me take your son and give him a good education. If he's anything like his father, he'll grow to be a man you can be proud of." And that he did. In time, Farmer Fleming's son graduated from St. Mary's Hospital Medical School in London, and went on to become known throughout the world as the noted Sir Alexander Fleming, the discoverer of Penicillin. Years afterward, the nobleman's son was stricken with pneumonia. What saved him? Penicillin. This is not the end. The nobleman's son also made a great contribution to society. For the nobleman was none other than Lord Randolph Churchill and his son's name was Winston Churchill.

Let us use all our talent, competence and energy for creating peace and happiness for the nation."

### **Author**

Azim Premji is the Chairman of Wipro Ltd. Premji, owns 84% of Bangalore-based Wipro Ltd., one of India's premier software companies. Its engineers write and develop software for multinationals such as Nokia, NEC, Cisco Systems, and Sun Microsystems. He is also founder of The Azim Premji Foundation (<http://azimpremjifoundation.org/>) dedicated to transforming the lives of millions of children in India by catalyzing universalisation of elementary education. This article is a transcript of a speech he gave in India.



# Laughing Really Does Matter...At Work

We need humor in the workplace! We must have it; we will shrivel and die if we don't. Humor/Fun in the Workplace is absolutely, uncontrovertibly necessary for all workplaces that truly want to succeed... because, after all.... LAUGHING MATTERS!

What it's really all about is ... creating an environment that is "safe" and fulfilling for people to work in. It's about creating the culture that invites honesty, loyalty, integrity, comfort, satisfaction and fosters "happiness" at work. When a company creates this kind of culture, their retention rate rises dramatically!

## Here's what you'll see:

- All the employees contribute to the productivity of the company.
- Everyone will be loyal, because they know they are a valued and cherished part of the team.
- People will be more creative and show more motivation.
- Employees will look forward to rising each morning, facing the day with enthusiasm and pitching in wholeheartedly.
- Employees will be "happy", which translates to happy customers.

Now, perhaps you have never quite thought of happiness as a desired characteristic for your employees; but if I told you that happy employees are more productive employees, would that be of interest to you? And, if I told you that a FUN and playful work environment boosts loyalty and performance, would that peak your interest even more? The obvious answer... "Yes, I'd love to know more about that!"

There is an underlying assumption that humor, laughter or a playful attitude on the job will be viewed negatively in most corporations. When you talk to employees (both management and non-management) in private about this, they almost always say that they have to be careful about letting their sense of humor show on the job. Both employees and management fear that people will feel they're being unprofessional, and that they're incompetent, not taking their job seriously, etc. And, often, management makes the assumption that being playful or having fun means less productivity.

I strongly disagree, especially about the productivity point. Consider the following:

If you take a break and have some lighthearted conversation or listen to or read something funny, do you think you'll come back more or less refreshed?



The obvious answer is MORE. And, if you're more refreshed, do you think you'll be more or less productive? The answer again is MORE.... More productive!

Lighthearted meetings, terrific break rooms, celebrations, awards, and contests. These are just a few of



the areas that are ripe for fun activities. Start by establishing a “fun committee” and then let em rip! I promise... the pay off will be much greater than you imagined and watch your productivity soar. And, most important, listen for the laughter in the hallways. It'll be a happy place and people will be beating the doors down to work there!

#### Author

Ann Fry works with companies who want to create incredible, Fun workplaces and with managers who want to be their best everyday. She does this through corporate training, Keynote Speeches, seminars and corporate coaching. Ann Fry, MSW, President of The Better Way and Dean of Fun of Humor University, has a background as a psychotherapist, an administrator, and a college professor. For the past 10 years she has been a corporate trainer, professional speaker and coach. She holds a Master's degree in Social Work from the University of Illinois, is a graduate of Coach University, and holds a Professional Certified Coach (PCC) designation through the International Coach Federation.

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# Comments on Creativity

Since 1989, I've been studying the human side behind great ideas. What I was looking for were themes in common to how people think of great ideas. I examined a diversity of disciplines including marketing, sales, research, administration, development, manufacturing and design, and investigated 350 of these great ideas. There were some surprising (to me, at least) observations. These observations should help you stimulate and focus creativity to innovative success.

I used many approaches to get the information. For instance, when I consult for a company, sometimes I have an opportunity to ask a department or team what they are most proud of. Then we backtrack to search for the factors that led to the key idea(s). Usually most of the people in the group had no inkling how those ideas came about. Through questionnaires and private interviews with each member of the group, including the person who had the key idea, I learned some of the more interesting details behind the idea's origins. Frequently, I followed up with phone calls and e-mails.

From examining the human side behind 350 great ideas, I made the following observations:

- Many people working in modern, fancy facilities had great ideas and many people working in dull, well-aged environments had great ideas.
- Many people considered by colleagues as "highly creative types" had great ideas and many people not considered especially creative had great ideas.
- Many people working in open spaces had great ideas and many people working in closely con-

finied spaces had great ideas.

- Many people on the high end of the salary scale had great ideas and many people at the low end of that scale had great ideas.
- Many people with supervisors who permit a lot of freedom had great ideas and many people with supervisors not providing that freedom had great ideas.
- Many people who felt comfortable at work had great ideas, and many people under tremendous pressure had great ideas.
- Many people, defined by coworkers as "fun-loving," had great ideas and many people considered "serious" had great ideas.
- Many experts had great ideas and many non-experts also had great ideas.
- Many people in small start-ups had great ideas and many people in huge multinationals had great ideas.

I did find some correlations; however, they were mostly negative ones:

- Only seven of these 350 great ideas occurred during group meetings! (How much time do you spend in meetings searching for great ideas?) In fact, most great ideas occurred when the individual wasn't actually working on the problem that the idea eventually solved. Many great ideas for work happened when the person wasn't even in the workplace! No wonder it's been difficult to get a handle on this elusive subject.

- None of these great ideas were facilitated or inspired by an "expert's" creative thinking method, even though many of the companies had people trained in such methods.

These results certainly put into question much current management "wisdom."

### **Author**

During the past decade Winston Brill has studied the origins behind hundreds of innovations in many disciplines and in many settings. This research has confirmed his idea that a common factor—the Innovative Attitude—drives individuals, teams, and organizations to innovative successes.

His avocations, art collecting and cooking, are yet other aspects of his interest in creativity. In his talks, he shows that creativity in art, creativity in cooking and creativity in business share many common themes.

Winston has been featured in *Fortune*, *Time*, *Der Spiegel*, *Newsweek*, on *CBS Evening News*, and on the public television series *NOVA*.

He has testified before U.S. House and Senate committees on innovation. One of his more interesting experiences was speaking on the subject at the Vatican.

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# A Path to Leadership

## Back to the Future of America's Strength

We are a nation of pioneers. Our strength is our diversity and our 'can do' attitude. The industrial age was merely a step on our path to achieving our national purpose. However, the impact on us has been the fragmenting of our spirit. We are now at a crossroads, and we must make a decision. Which path are we to take?

We know what we have lost. Yet we do not see clearly what we will gain. We can no longer deny that transforming actions must be taken. Yet it is impossible to go back to past as some urge us to do. We must go back to the past only in order to re-discover our strengths and transform them into our future. The role of a leader is to discover and illuminate our path to the future.

Leadership is now a state of mind, not a position. In this highly interactive age, each of us will find that we will increasingly be in situations that demand the exercise of our innate capability to lead. It is imperative that each of us bring up the leader within. We must all develop our leadership capability to its fullest in order for our organizations and institutions to be transformed.

## The Journey to Effective Leadership

The road to leadership is one of personal growth. This road begins with the decision to understand yourself. There are seven steps on the road to effective leadership in the age of interaction. The seven steps are: understanding who you are, letting go of what you have hold of, knowing your purpose, living in the question, learning the art of barn raising, giving away what you think you possess, and letting

the magic happen.

## Who Are You?

Alice, in *Through the Looking Glass*, is confronted by the caterpillar with the question, "Who are you?" We are now confronted with this same question. Making the decision to answer this question is the beginning of the journey to becoming a leader. You must understand what you know and what you don't know about yourself. You must assess your resistance to and tolerance for change, your fears, your preferences, and your skills and abilities.



You must discover the chains that bind you to your past that prevent you from understanding who you really are. A conscious decision must be made to

break those chains and seek deeper self understanding in order to answer the question, "Who are you?"

## Let Go of What You Got Hold Of

Once you understand the chains that bind you, you must let go of them. In reality, they are not holding on to you; you are holding on to them. Letting go of what you have hold of frees you to reach for something else. It puts you on the path to interact with new experiences from which you gain more understanding of who you are. Letting go of what you have hold of



puts you in the state of mind of being responsible for your own actions and your future.

### Learn Your Purpose

You learn your purpose through lifelong introspection and interaction with others. Each of us has a purpose. Not all of us understand what our purpose is. Even those of us who think they understand their purpose, probably only have a glimmer of what their true purpose is. The paradox of life is that we must discover what our purpose is, but if we define our purpose too soon, we limit what we can accomplish with our life.



The pioneers heeded the call to “Go west!” And, in following that call many fulfilled their purposes, and together built a nation. Geography is no longer the frontier. The call today is to reintegrate our spirit. You must seek to balance your pursuit of knowledge, the development of your being, and the recognition of your need for generativity.

In the age of interaction, the number of interactions possible is growing at a prodigious rate. It is more important now than ever that you develop the habits of mind that allow you to filter those interactions and choose which ones to be responsive to. Habits of mind are developed from values that you have. Values propel you along the path to discovering your unfolding purpose. As you discover more and more of your purpose, you can decide to change your values allowing you to continue your lifelong process of learning.

### Live in the Question



In the industrial age we learned to analyze a situation, isolate the problem, and administer a quick fix. “Have a headache? Take two aspirin and call me in the morning.” In the interactive age, everything is tied to everything else.

You must learn systems thinking and that means you must live in the question long enough to understand the relationships important to a systems solution. You must be flexible so that you can be open to what can come.

### Learn the Art of Barn Raising

Barn raising was a tradition of our pioneering culture. A group of people came together to help someone accomplish the task of raising a barn. Individuals applied their skills and talents using the technology they understood, teams were formed to accomplish specific tasks, and a community was developed in the process. When the barn was raised, the community celebrated, and then they each went back to their other work.

This one of the traditions of our past that we need to use in a transformed way in our work and life. The present emphasis on teamwork is not a passing fad. It is a recognition of this basic need in the interactive age to work with and through others. But, we must move past teamwork to community building.



In the industrial age, we learned to segment tasks and skills. Economies of scale and compartmentalization drove the industrial age development of large organizations in which the purpose of each individual was often lost. Today it is economies of scope and integrative approaches that are important. This is fueled by the development and diffusion of information based technologies. And, it is, as it was in barn raising, the shared purpose that motivates individuals to contribute their energy, skills and abilities.

In this environment, leadership is situational, not positional. In barn raising, many people become leaders depending upon the situation. And, out of the community comes more than the sum of the individual efforts.

You must learn the art of barn raising. This gives you the ability to work with and through others, a neces-



sary step on your journey to becoming a leader, while building community.

### Give IT Away

In another paradox of life, the more you try to hold on to something, the more likely you are to lose it. If you operate from a perspective of scarcity, you are likely to hoard re-

sources. Whereas if you view the world as abundant, you become af-



fluent. You must relentlessly pursue the release of power and control. It is in this manner that the full power of the individuals can be multiplied and the results from a team or organization far exceed expectations. You accomplish this through a process of ennobling, enabling, empowering, and encouraging others.

### Let the Magic Happen

This last step to leadership in the interactive age is letting go of the



demands of your ego. It does not mean that you must get out of the way. It means that you must become a member of the team and to

use your skills and abilities, joining in the shared purpose, to help the team achieve its maximum potential.

### May You Live in Interesting Times!

The ancient curse is upon us. We do live in interesting times. The basic nature of work is changing for only the third time in history. This new nature of work is the context in which you will lead, and live your life.

### The Authors

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# Relativity – The Difference Between Losers and Winners

Everything is relative.... Think about it. Say you weigh 130 lbs. but would like to weigh 120 lbs. You then proceed to gain ten more pounds and are now at 140 lbs. and miserable. So you commit to a diet and loose the ten pounds. Now the 130 lbs. isn't so bad as compared to the 140 lbs. and you are more at peace with the 130 lbs. then when you first were at 130 lbs. So when was the last time you were satisfied with yourself, be it weight, your nose, the shape of your eyes, your hair color, your teeth, etc.

Comparison is detrimental to our sanity. It keeps us constantly seeking what we don't have. We are never at peace with what we do have. No matter where we are we always want to be somewhere else on the scale of accomplishments. It is a most human condition that keeps the majority of people suffering. This self-induced mental suffering game keeps us on the treadmill of "not good enough."

What if you shifted your attitude about yourself and really saw all those self-imposed weaknesses as your unique selling points (USP) and strengths. The difference between winners and losers is a mere change in their own internal perception regulator.

"Life happens. I can let it happen to me or for me.  
I choose."  
Perry A~

I have a friend who as a child was considered by the 'pack' as too small. He was berated for being to small, not big enough and little. He looked at the advantages of not being the same size of everyone else. What he knew about himself is that he was fast. He was fast as the wind. His small frame contributed



to his speed. He capitalized on what the "pack" proclaimed was not good enough. He made it into an advantage. He knew he had an advantage in his specific area of expertise. He focused on what he did have rather than what he didn't have.

Remember Twiggy? She capitalized on her unique difference and instead of becoming a person of low-self esteem because

The real struggle in our search for self-victory is to change the nature of our struggle.

Guy Finley

she was skinny, she used it to her advantage.

What are some self-perceptions you are willing to reposition and highlight as your unique selling points? Shift your attitude and claim your greatness. Dare to celebrate your uniqueness.

## Author

For more than 15 years, Perry A~ has been astounding audiences with her uncanny ability to pinpoint and bring out the best in themselves and others. Let her inspire, delight and move your people into action.

As an expert in changing perceptions, she weaves

the connecting thread of how we all are in each others' lives for a higher purpose. Audiences chuckle as she reveals how the people we love to hate are really angels in disguise. She began her speaking career over 40 years ago as a Cajun humorist. Today as a seasoned Master Story teller and humorist, she will take your audience on a roller coaster ride of emotions. They will experience the highs and lows of all that life has to offer. They will laugh out loud and leave refreshed and eager to accept life's challenges.

Perry A~

"The Consummate Entertainer"

and Author of ***People Are Just Desserts***

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# Return on Innovation

As a student of innovation for some twenty odd years, I still find it amazing just how hard innovation continues to be.

John Seely Brown

If John Seely Brown thinks innovation is hard, no wonder the rest of us find it overwhelming at times.

Last month, the International Institute for Research sponsored a conference on Return on Innovation. It was an incredible sharing of information about how to measure and manage innovation and demonstrated how this field is starting to be accepted as a

true strategic discipline. We had innovation practitioners from HP, Intel, Motorola, James Hardie Construction, Boeing, Air Products & Chemicals and consultants with long backgrounds in other major organizations.

Conference Briefing Nuggets ... just a few of thoughts we're still chewing on:

Ron Kubinski, formerly with 3M for 28 years stated, "Best practices for innovation include making it part of the performance process as well as part of the hiring process."

Mark Turrell with Imaginatik, Inc. advised us to always remember that executives want financial justification of why innovation is important and sensible guidance on what level of resources to invest in building innovation capacity. Mark has developed an "innovation gap" calculation that helps senior managers see the magnitude of the challenge.

John Wolpert with IBM reminded us that many great inventions and innovations were sparked by serendipitous events ... two things come together accidentally and a new industry is launched. Trying to create lightning in a bottle by bringing different industries and organizations together requires a field of trust, a strong process that

protects each player, and an exceptional intermediary who can maintain the integrity of the system and the trust of all.

Alain Rostain and Tom Drucker with CreativeAdvantage, Inc., presented a case study of a major successful effort to use innovation tools to reduce costs. They state, "Helping people understand the business reason for an ideation process and requesting specific, limited participation over a finite period of time creates greater participation and collaboration."

Charlie Prather, Ph.D., with Bottom Line Innovation, Inc., presented two types of alignment: "There are two dimensions of alignment: vertical alignment connects the organization's strategies with people's decisions and behaviors; horizontal alignment connects customer needs with organizational processes."

Martin Curley with Intel explained how they use "value dials" to identify key business variables and associate monetary value to a unit improvement in the variable. This provides a common base for evaluating projects and eliminates a great deal of squabbling over numbers. For instance if a one-day reduction in inventory was assigned a monetary value of \$2.37 million then people might argue about whether or not the project would deliver the one-day reduction, but they wouldn't argue over the value. (well, theoretically, at least!)

These are just a few of the many nuggets that came out of this conference. If you're interested in measuring and monitoring innovation, don't miss this easy-chair way of getting the meat from this conference. We have synthesized the information into a Conference Briefing, with a price tag about what you would have spent for parking, taxis and a few raids on the mini-bar! For more information about the Briefing, go to: <http://www.thinksmart.com/conference/roi.html>.

**Author**

Joyce Wycoff is a Co-Founder of the *Innovation Network*, an organization focused on helping organizations develop a core competency of innovation. Wycoff has a broad background in management and marketing and a deep understanding organizational innovation. She is the author of several books on innovation and creativity, including *Mindmapping*, *Transformation Thinking*, and *To Do ... Doing ... Done!* She has worked with organizations from top Fortune 500 companies to small entrepreneurial ventures and non-profit organizations. Wycoff holds a bachelors in economics from Oklahoma State University, an MBA with a finance emphasis from National University and, in a prior existence, was a Certified Management Accountant.

Joyce is available for keynote speeches and conversations about creating an environment that stimulates and supports organizational innovation.

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# Creative Combinations

An invention quite often results from the combination of known principles in a novel, unexpected, and nonobvious way. A characteristic of creative people is their ability to combine seemingly unrelated concepts to produce something new. Reese's promoted the accidental aspects of this in their series of advertisements showing various ways peanut butter and chocolate came together to produce a product. A creative person does take advantage of chance combinations.

In order to do so though, the creative person must have a purpose, must be looking for something. The Reese's ads show the people being angry about the accident, tasting the result, and liking it. What the ads do not depict is that without a purpose, in this case someone looking for a product to meet a consumer need, the accidental encounter would have been lost. The two people would have enjoyed the random combination, and gone on their way. It would have ended there. Like an accidental mutation in a biological organism that served no purpose, it would simply have ended.

Flexibility is one of the attributes of creative thinking. It is indicated by the number of shifts in thinking that occurs as you list potential solutions to a problem. If, for example, you wanted to get to the top of a tree, you can list a variety of different ideas having to do with climbing the tree or a ladder or an adjacent house. You might also think about training a big bird to fly you to the top of the tree. Or, you might consider planting a seed, sitting on it, and waiting for the tree to grow!

These shifts in thinking presuppose, in the first case, knowledge of birds, how big they are, their weight-bearing capacity, and how trainable they are.

In the second case, one needs knowledge of trees, how they grow, how long it would take, their load-bearing capacity while young, etc.

The more topics that you are an expert in, if you have facile access to the knowledge, the more likely you are to make a creative combination.

Most creations are the result of purposeful activity, not accident. Purpose and knowledge in many fields are vital ingredients in a creative person.

Charles Townes made one of the most significant inventions 52 years ago by creative combination. He is a scientific pioneer who liked to keep himself on the frontiers of physics. His 1951 breakthrough, discovering a method to generate intense energy from molecules, gave us the laser revolution of the 1960s. While studying the nature of matter in outer space, he investigated startling new theories about the birth and death of galaxies and the universe.

In an age of highly organized "big machine" physics, Townes preferred research that a scientist, working with students, can conduct independently.

Townes states, "Mankind consistently errs in the direction of a lack of foresight and imagination . . . the element of surprise is a consistent ingredient in technological development, and one we have great difficulty dealing with on any normal planning basis."

Townes has always been a collector. As a boy, he saved stamps, butterflies and bottle caps. As a student, he ran the small museum at his college. As a scientist, he owes much of his success to years spent collecting and interpreting facts about the electromagnetic spectrum and, in particular, about

the microwave portion of the spectrum. His detailed knowledge of how microwaves interact with molecules led to his invention of the maser. In 1935, while studying physics at a small college in South Carolina, Townes read about an engineer named Karl Jansky. In 1933, Jansky accidentally detected what he thought were radio signals coming from the Milky Way.

During World War II, Townes worked on navigational computers, bombsights, and radar for B-24 bombers. The armed services, in an attempt to build an improved radar set, wanted to build a system that could operate at wavelengths shorter than normal. Townes warned his superiors that, at the frequency chosen, water vapor would absorb most of the radar beam. The system was built and, as he predicted, it failed.

Jansky's discovery had intrigued him. When he had time off from his work on computers and radar, with surplus equipment from the radar project, Townes began his study of microwave spectroscopy. He developed his own interpretation of what Jansky had detected. Thus began his life-long interest in stars and radio astronomy.

Later, he sought ways to produce electromagnetic waves less than one millimeter long. Townes knew that atoms or molecule could produce such short wavelengths, but he wasn't sure how to tap that energy.

One Sunday morning, Townes found the solution. He had an idea for an oscillator, which could stimulate the emission of energy from molecules.

"I awoke very early, possibly because of my frustration and concern over why we hadn't yet found any real solutions to the production of such short waves."

"I slipped out of my hotel room before breakfast to sit on a bench among the azaleas of Franklin Park in Washington, and there the early spring morning enjoyed the freshness and beauty of these gay flowers, musing over why we had so far failed."

"The moment of insight was more vivid and complete than any other in my experience. Suddenly, I recognized the fallacy in my previous thinking and that of others. A three-minute calculation on the back of an envelope showed that such a system could be built."

Townes' training as a physicist and his war time experience in electronics led him to make a connection between the energy in an atom and the waves of electromagnetic radiation.

When physicists thought about energy, such as light, being emitted from an atom, they thought of a single photon spinning off, then disappearing. Engineers, however, were used to thinking about waves that were continuous and could bounce back and forth between molecules.

Townes combined these two ways of thinking in developing his ideas for the maser and laser. He saw that in a properly constructed chamber, continuous waves could be used to stimulate the natural emissions from atoms and molecules, thereby producing intense energy -- a maser (microwave amplification by stimulated emission of radiation). When an atom or molecule absorbs energy, becomes excited, then emits the energy, it returns to its normal state. In a maser or laser, these emissions can be stimulated or multiplied by pumping energy through a condensed group of molecules to excite them.

In 1951, Townes described stimulated emission of radiation in his notebook. In 1954, working with Jim Gordon, he completed the first maser. In 1958, working with his brother-in-law, Arthur Schawlow, Townes described an optical maser or laser. For his work on the maser and laser, Townes received the 1964 Nobel Prize in physics.

Townes' maser has been a link between his work with electronics and his interest in astronomy. Soon after it was invented, the maser was recognized as an excellent low-noise amplifier that could be used to help detect weak radio signals coming from outer space.

In 1958, Townes and his students at Columbia installed the first maser for use in radio astronomy at the Naval Research Laboratory. In 1965, one of Townes' students, Bell Labs' scientist Arno Penzias, discovered the cosmic background radiation with a maser-equipped radio telescope. For this, Penzias shared the 1978 Nobel Prize in physics. Whenever Townes studied interstellar matter with a radio telescope, he also used the maser.

The atomic clock, which utilizes the maser, varies

no more than one second every 300 years. The most precise timepiece ever developed; it was used to confirm Einstein's special theory of relativity that predicted that time would slow for a moving clock.

Townes sought challenges inside and outside his laboratory. In 1964, when many scientists were attacking the high costs and goals of the U.S. space program, Townes volunteered to organize a science advisory committee to the National Aeronautics and Space Administration.

In 1965, scientific opinion was divided. Could a manned spacecraft land on the surface of the moon or would it disappear into a thick layer of surface dust? Using all the available data, Townes wrote a paper analyzing pros and cons of landing on the moon. The committee's final recommendation was to go ahead with Apollo and the mission to the moon.

All scientists who do research take risks. But only a few risk stepping outside an area in which they have proven themselves to work in a totally new field. Soon after Townes invented the maser and saw lasers on the horizon, he gave them up to study astronomy full-time.

"When I was about to leave MIT, one of my friends in the administration asked, 'What's all this nonsense about you going into radio astronomy? Are you sure that changing fields so completely is the right thing to do?' 'It's not really a change,' I said, 'it's all the same thing. You can call it different if you want to, but it's using many of the same ideas and extending them in new directions.'"

"I don't particularly like to be in a field in which there are a large number of people working. Once there gets to be a large number of people, one more doesn't make all that much difference. Once lasers really got going and there were lots of people working on them, there was no point in my doing it, too."

"Part of the reward of changing fields is that you can apply ideas that are rather strange to the field at the time."

Training and experience as a physicist, experience as an engineer, knowledge of radar and microwaves, and a lifelong interest in astronomy were all combined by Townes into an invention that touches all

our lives and our understanding of the universe.

What is your plan to acquire the various areas of knowledge you need to be creative now and maintain your creativity throughout your lifelong career? What is your purpose?

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# The Way of Invention

Most creative people - those folk who have the reputation for choosing their own paths to follow rather than trotting along with the rest of us - approach the act of creating and inventing in the same way. This hardly seems the stuff of a wild duck. Yet, such is the case, according to a goodly number of psychologists who write and talk extensively about the creative process. What's more, those psychologists maintain that everyone can be creative.

That everyone can be creative may or may not be stretching it a bit. Regardless, the important point, apparently, is for an individual to believe that the potential is there and act accordingly.

So, to promote innovation, the steps that lead to invention - actually just a slight variation of the steps associated with the creative process - appear below. By reviewing how highly innovative people do their thing, the rest of us just might strengthen our creative and inventive skills.

Granted, some people have jobs that preclude, or almost preclude, any possibility of receiving patents for clever thinking. Even so, the invention process can be used as a guide for honing creative skills, which have application in every job.

A way to invention:

## **Preparation**

- Acquire knowledge through formal education and life's experiences.
- Gather pertinent information.

## **Manipulation**

- Look for significant patterns or facts in the amassed data.

- Draw relevant material together.
- Allow an outpouring of ideas while disallowing, initially, any consideration of restraints-of reasons, such as cost and impracticality, for dropping an idea. This technique, in group situations, is called brainstorming.
- Use analogy to find possible solutions. An existing concept or situation that is similar in some respects to the task at hand might provide useful insights.

## **Incubation**

- Turn away from the problem for a significant length of time. A solution, an "aha!" may present itself during this stage, or the respite may simply prepare you for the next step.

## **Illumination**

- Return to the problem at hand, once again studying your data but focusing on relevant materials and likely avenues to a solution. A good idea may still elude you at this time. You may have to go back to any one of the earlier steps and proceed from there.

## **Verification**

- Test your idea with objective proofs if such proofs are available.
- Assess the value of the idea.
- Consider what might go wrong.
- Ask others to examine the idea, but don't be easily discouraged by others' negative views.

## **Implementation**

- Sell the idea; then put it into practice. This stage, in many instances, is the most difficult. Success at this time requires determination, perseverance, and skill in persuading people.

**Invention**

Prepare a patent application & file for a patent. An innovative solution becomes identified as an invention only after this final step is carried out.